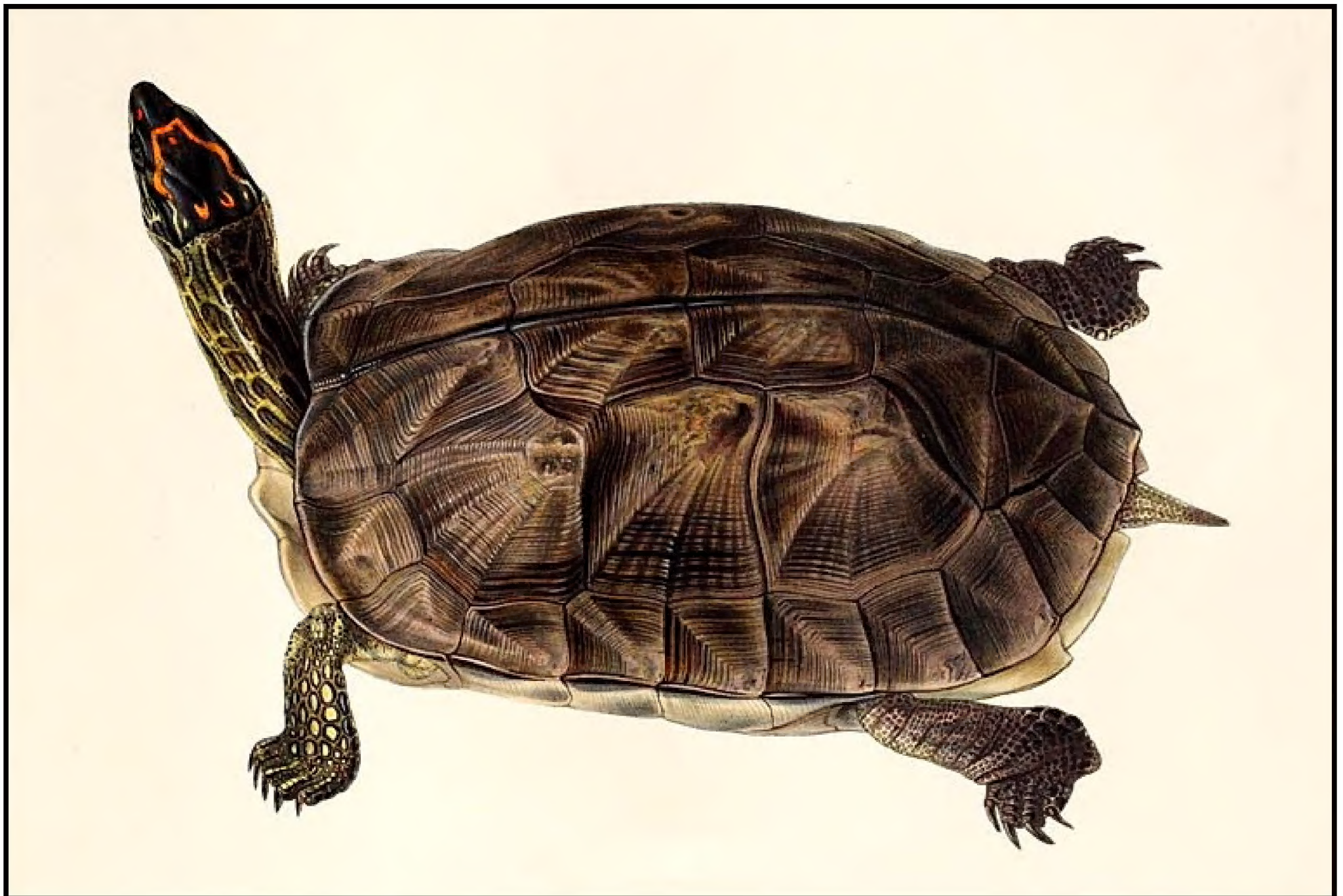

BULLETIN

of the

Chicago Herpetological Society



Volume 56, Number 3
March 2021



BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY

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Cover: Indian Black Turtle, *Melanochelys trijuga*. Drawing (as *Emys scabra*) from A Monograph of the Testudinata by Thomas Bell, 1832–1836.

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A New Geographic Distribution Record for *Trachemys scripta scripta*: DeKalb County, Illinois

John Vanek¹, Richard King² and Patrick McCrea³

On 18 September 2020, one of us (JV) captured an adult female Yellowbelly Slider (*Trachemys scripta scripta*) in a mud-bottomed portion of the South Branch of the Kishwaukee River adjacent to the Knute Olson, Jr. Forest Preserve, Kingston, Illinois (42.0695°N, 88.7105°W; WGS 84). The turtle did not appear to be malnourished, but had a damaged eye, patches of discolored skin, and old, browned laminae stuck to the shell (Figure 1). The native range of the yellowbelly slider is approximately 750 km to the southeast of DeKalb County, Illinois (Conant and Collins, 1998) and the nearest introduced population is approximately 700 km to the east in Ohio (<<https://nas.er.usgs.gov>>; accessed 27 Oct 2020). Dancik (1974) suggested that introduced *T. scripta scripta* were breeding in Cook County, Illinois (~70 km from our observation in DeKalb County). It is unclear if this population is still extant; they were not reported in the survey of Cook County herpetofauna by Anton (1999). While the red-eared slider (*Trachemys scripta elegans*) has been documented in DeKalb County (INHS 2754038), our observation of a yellowbelly slider represents a county record (Smith, 1961; Phillips et al., 1999). Given the distance from its native and introduced ranges, the turtle's tame nature, and the poor condition of the turtle's skin and laminae, we presume this individual was intentionally released or escaped from captivity, but it is unclear how long ago. This observation is recorded as a photo voucher with the Illinois Natural History Survey (INHS UNvouch 44570) and on HerpMapper <<https://www.herpmapper.org/record/325628>>.



Figure 1. A Yellowbelly Slider (*Trachemys scripta scripta*) captured in the South Branch of the Kishwaukee River, in DeKalb County, Illinois.

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1. Department of Biological Sciences, Northern Illinois University, DeKalb, IL 60115. john.p.vanek@gmail.com

2. Department of Biological Sciences and Institute for the Study of Environment, Sustainability and Energy, Northern Illinois University, DeKalb, IL 60115. rbking@niu.edu

3. Patrick McCrea, DeKalb County Forest Preserve District, Sycamore, IL 60178. pmccrea@dekalbcounty.org

Notes on Reproduction of Squirrel Treefrogs, *Dryophytes squirellus* (Anura: Hylidae), from Texas

Stephen R. Goldberg
Whittier College, Biology Department
Whittier, CA 90608
sgoldberg@whittier.edu

Abstract

I conducted a histological examination of gonads from 30 *Dryophytes squirellus* adults from Texas consisting of 23 males and 7 females. Males contained sperm from all months examined: March to July and September, October. The smallest mature male (sperm in lumina of seminiferous tubules) measured 25 mm SVL and was from August. Females in spawning condition were found in March, April, June and July. The smallest mature female (spawning condition) measured 30 mm SVL and was from April. I found no evidence (gravid females containing postovulatory follicles from a recent spawning) to indicate *D. squirellus* spawns more than once in the same year in Texas.

Dryophytes squirellus (Daudin, 1800) occurs from southern Texas to southern Arkansas and southeastern Virginia to Florida; it is introduced in the Bahama Islands (Frost, 2020). It also occurs on barrier islands off the southeastern Atlantic coast and Florida Gulf Coast (Green et al., 2013). They are mainly nocturnal (Smith and List, 1955). Breeding is associated with warm rains (Wright, 1932). In Texas *D. squirellus* reproduction follows heavy rains and may occur March to October; amplexus is aquatic (Tipton et al., 2012). Males may mate with more than one female during the breeding season (Brugger, 1984). *Dryophytes squirellus* are mainly explosive summer breeders that form large choruses lasting only one or two nights (Elliott et al., 2009). Suitable habitats include small, temporary wetlands for breeding (Dodd, 2013). Brugger (1984) reported clutch sizes for five females in northern Florida averaged 1059 eggs. Martof (1975) summarized the biology of *D. squirellus*. In the current paper I present data on the *D. squirellus* reproductive cycle from a histological examination of gonadal material from Texas. Utilization of museum collections for obtaining reproductive data avoids removing additional animals from the wild.

A sample of 30 *D. squirellus* from Texas collected 1983 to 2016 consisting of 23 adult males (mean snout-vent length, SVL = 30.2 mm $\pm$ 3.0 SD, range = 25–35 mm) and seven adult females (mean SVL = 31.4 mm $\pm$ 3.1 SD, range = 26–35 mm) was examined from the biodiversity research and teaching collection (TCWC) of the Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, Texas, USA (Appendix). An unpaired *t*-test was used to test for differences between adult male and female SVLs (Instat, vers. 3.0b, Graphpad Software, San Diego, CA).

A small incision was made in the lower part of the abdomen and the left testis was removed from males and a piece of the left ovary from females. Gonads were embedded in paraffin, sections were cut at 5 μ m and stained with Harris hematoxylin followed by eosin counterstain (Presnell and Schreiber, 1997). Histology slides were deposited at TCWC.

There was no significant difference between mean SVL of adult males versus adult females of *D. squirellus* ($t = 0.97$, $df = 28$, $P = 0.34$). The testicular morphology of *D. squirellus* is similar to that of other anurans as described in Ogielska and Bartmańska (2009a). Within the seminiferous tubules, spermatogenesis occurs in cysts which are closed until the late spermatid stage is reached; cysts then open and differentiating sperm reach the lumina of the seminiferous tubules (Ogielska and Bartmańska, 2009a). All 23 *D. squirellus* adult males were undergoing sperm formation (= spermiogenesis) in which clusters of sperm filled the seminiferous tubules. A ring of germinal cysts was located on the inner periphery of each seminiferous tubule. By month, numbers of *D. squirellus* males exhibiting spermiogenesis ($N = 23$) were: February ($N = 2$) March ($N = 2$), May ($N = 5$), June ($N = 4$), July ($N = 4$), August ($N = 5$), September ($N = 1$). The smallest mature *D. squirellus* male in my study (spermiogenesis) measured 25 mm SVL and was from August (TCWC 72720). Wright and Wright (1933) reported adult *D. squirellus* males ranged from 23 to 36 mm in body length.

The ovaries of *D. squirellus* are typical of other anurans in consisting of paired organs located on the ventral sides of the kidneys; in adults they are filled with diplotene oocytes in various stages of development (Ogielska and Bartmańska, 2009b). Mature oocytes are filled with yolk droplets; the layer of surrounding follicular cells is thinly stretched. All seven *D. squirellus* females in my sample were in spawning condition and contained mature oocytes. Their monthly distribution was: March ($N = 3$), April ($N = 2$), June ($N = 1$), July ($N = 1$). The smallest *D. squirellus* mature female (ready to spawn) measured 30 mm SVL (TCWC 67013) and was from April. Wright and Wright (1933) reported adult *D. squirellus* females ranged from 23 to 37 mm in body length.

Atretic follicles were noted in the ovaries of four of the seven (57%) *D. squirellus* females in my sample (all were in spawning condition). Atresia is a widespread process occurring in the ovaries of all vertebrates (Uribe Aranzábal, 2009). It is common in the amphibian ovary (Saidapur, 1978), and is the spontaneous digestion of a diplotene oocyte by its own hypertrophied and phagocytic granulosa cells which invade the follicle and eventually degenerate after accumulating dark pigment (Ogielska and Bartmańska, 2009b). See Saidapur and Nadkarni (1973) and Ogielska et al. (2010) for a detailed description of follicular atresia in the frog ovary. Atresia plays an important role in fecundity by affecting numbers of ovulated oocytes (Uribe Aranzábal, 2011). Incidences of follicular atresia increase late in the reproductive period (Saidapur, 1978). Saved energy

Table 1. Periods of reproduction for *Dryophytes squirellus* from different states.

Locality	Breeding period	Source
Alabama	Mid-April to mid-August	Mount, 1975
Florida	April to August	Carr, 1940
Florida	March to September	Krysko et al., 2019
Carolinas to Virginia	April to August	Beane et al., 2010
Georgia	March to late summer	Jensen et al., 2008
Louisiana	March to November	Dundee and Rossman, 1989
Louisiana	Mid-March to early October	Boundy and Carr, 2017
North Carolina	April to August	Dorcas et al., 2007
Southeast	Late spring or summer	Dorcas and Gibbons, 2008
Texas	March to October	Tipton et al., 2012
No specific locality	April to August	Wright and Wright, 1933

presumably will be utilized during a subsequent reproduction.

Times of breeding for *D. squirellus* throughout its range are shown in Table 1. Because I lacked *D. squirellus* female samples from late summer and autumn, I cannot comment on the duration of female reproduction in Texas although my five August males (TCWC 72720, 78486, 78487, 78490, 78491) and one September male (TCWC 100829) were producing sperm, indicating breeding would have been possible.

I found no histological evidence that *D. squirellus* produces

multiple egg clutches in the same reproductive season in Texas. This would have been suggested by the presence of mature follicles and the concurrent presence of postovulatory follicles, in the same female (*sensu* Redshaw, 1972). Goldberg (2018) reported multiple clutches were produced by the congener *Dryophytes wrightorum* in Arizona.

Acknowledgment

I thank Toby Hibbitts (TCWC) for permission to examine *D. squirellus* and for facilitating the loan.

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Appendix

Thirty *D. squirellus* from Texas examined by county from the Division of Herpetology, Biodiversity Research and Teaching Collection (TCWC), Texas A&M University, College Station, Texas.

Calhoun: TCWC 92079; **Colorado:** TCWC 61471, 61472, 61474; **Fort Bend:** TCWC 78489; **Jackson:** TCWC 94235; **Jasper:** TCWC 78486, 78487, 78490, 78491; **Jefferson:** TCWC 72720; **Kenedy:** TCWC 103222; **Lavaca:** TCWC 63207; **Starr:** TCWC 93192; **Tyler:** TCWC 67013, 69293, 69294, 70463, 70464, 70465, 70466, 94277, 94278, 94279, 94280; **Walker:** TCWC 82715; **Waller:** TCWC 92084; **Washington:** TCWC 92083; **Wharton:** TCWC 92436; **Willacy:** TCWC 100829.

Herpetological Art at the Cincinnati Zoo — October 2020

Photos and story by
Roger Carter
625 Lakeview Dr
Zionsville, IN 46077
drymarchonzz@hotmail.com

On October 22, 2020, my wife Holly and I visited the Cincinnati Zoo and Botanical Garden for the day.

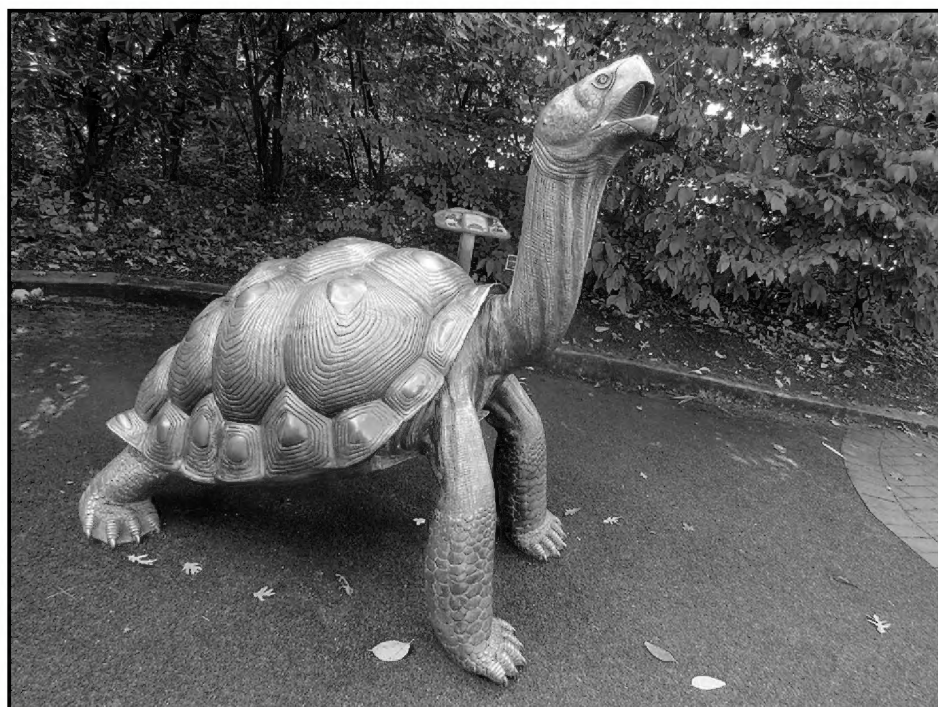
Right next to the reptile building is a large bronze statue of a Galapagos tortoise. This statue has the neck of the tortoise stretched so high that the tip of the nose is approximately six feet above the pavement. After an internet search that brought me to Wikipedia, I think that this statue might represent the Chatham Island tortoise, *Chelonoidis chathamensis*.



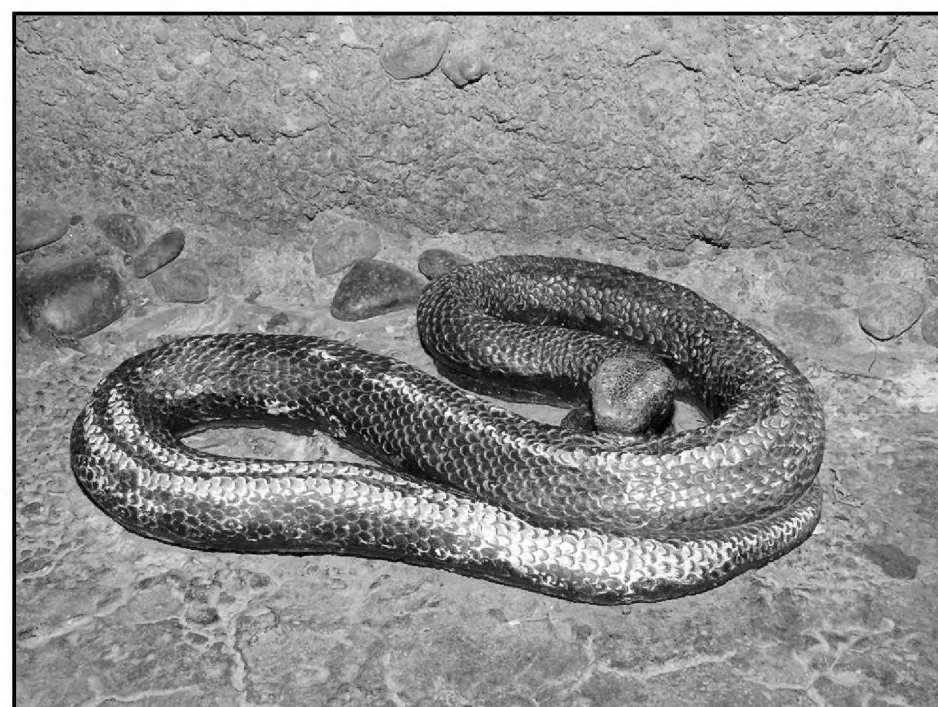
be to scale for an adult lizard. The signs appear to be either plastic or fiberglass; one of the signs had some minor damage to one of the lizard's claws.

We went to the "Jungle Trail" that has outdoor displays of animals that, in the wild, would be seen during the day and indoor displays of animals that, in the wild, would be seen only at night. The indoor displays are dark and have red lights to make the animals there think that it is night so the zoo public can see them. At the start of the Jungle Trail is a

sign that says "... find these plants and animals along the trail," and another that shows two statues of cockroaches and says, "YOU'RE LOOKING FOR SCULPTURES LIKE THESE." This sign identifies the Madagascar hissing cockroach, durian fruit, giant African millipede, yellow-winged bat, rock gecko, Madagascar ground boa, and Malayan leaf insect. The walls and the floor of the Jungle Trail buildings were made to look like rocks as if you were walking through a small canyon. In one of the Jungle Trail buildings we found the bronze sculpture of the Madagascar ground boa, *Acrantophis madagascariensis*, curled up on the floor of the building sort-of in a corner where it could possibly startle anyone who might be afraid of snakes, and we found the the bronze sculpture of the giant millipede several feet above the floor on the fake rock wall. I estimate the length of the heavy-bodied snake sculpture at about six feet. The millipede statue was approximately nine inches long and almost half an inch in diameter. We didn't find the rock gecko or any of the other sculptures.



The zoo has a separate building for their very large Komodo dragon, *Varanus komodoensis*, and there are two identical signs that show the head and front legs of the dragon with a sign in large bold letters that says "DRAGONS!" These aren't statues but they are three-dimensional images of the lizard and seem to



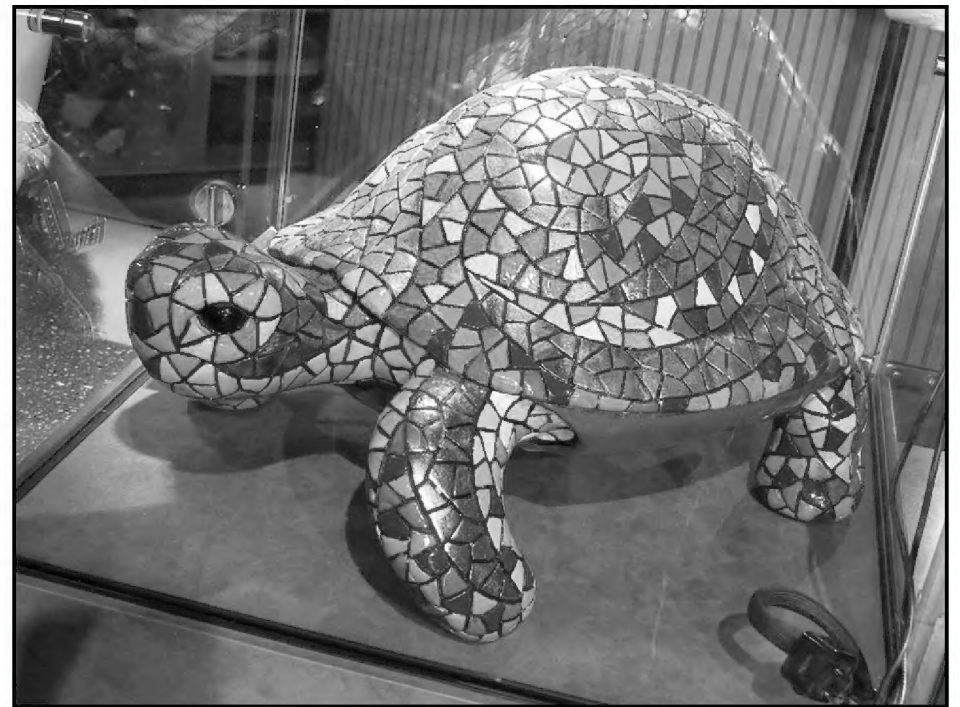


In the Children's Zoo is a bronze statue of Joe H. Spaulding, Jr., with a small deer-like mammal on his leg and a weasel-like mammal at his left foot. Mr. Spaulding's mother donated \$2,000,000 to expand the Children's Zoo in memory of her husband, who died of leukemia, and her son, who died in a traffic accident. The statue includes a large frog by his right knee and what is probably meant to be a box turtle behind his right foot. I don't know if the frog statue is supposed to resem-



ble a real frog. The entire statue is larger than life; it is almost six feet high even though Mr. Spaulding is kneeling.

In the gift shop there was a sculpture of a turtle or tortoise of some kind in a glass case. It seems to be made of multi-colored pieces of glass or ceramic. Some of the pieces are gold in color; others are many different shades of red, yellow, orange, green, blue, purple, and pink. This statue was approximately two feet long with a price tag of \$400.00. There was a tag that identified this as handmade by a company called Barcino Designs, <www.barcinodesigns.com>. The tag also says "THIS ITEM IS NOT A TOY. FOR DECORATIVE USE ONLY."



The gift shop also had a sculpture of what seems to be some kind of a monitor lizard made of wire. There was a tag that read: "THIS SCULPTURE WAS TWISTED AND SHAPED FREE-HAND FROM A SINGLE STRAND OF ALUMINUM WIRE BY SCULPTOR DEVIN MACK OF DRAWN METAL STUDIOS BALTIMORE, MD. CARE AND USE: ALUMINUM SCULPTURES ARE SUITABLE FOR INDOOR OR OUT-DOOR USE. HOWEVER, THEY ARE NOT INDESTRUCTIBLE! DROPPED OR MISHANDLED SCULPTURES MAY DEFORM. PLEASE DO NOT USE AS A TOY! CAN BE CLEANED WITH GENTLE SOAP AND WATER. 100% MADE IN THE USA". The price tag on this was \$200.00. There were similar wire sculptures of other animals, but we didn't buy any souvenirs.



Normally I wouldn't identify any gift shop items because they are usually mass produced, but I thought these two were very interesting, mostly because they were handmade.

The Yuma Experience: Flat-tailed Horned Lizards (*Phrynosoma mcallii*) and 'Winders as Common as Sand — Part 2

Roger A. Repp
9044 N. Valgrind Lane
Tucson, AZ 85743
repproger22@gmail.com

For those readers who do not remember (or are still trying to forget) Part 1 of this narrative dealt with the author joining the horned lizard queen and Ph.D. candidate Wendy Hodges in Yuma, Arizona. Wendy was surveying patches of ground near Yuma, seeking presence or absence of the Flat-tailed Horned Lizard. While I was hoping to see a Flat-tail, I was really there to see the impressive numbers of Sidewinders that could be found on or near her study grids. Part 1 ended with the author describing an eviscerated Flat-tail that he found dangling in a creosote bush. The lizard had been placed there by a loggerhead shrike, which is a predatory songbird with a unique hunting style. The date this was happening was 31 July 1994. Having brought all of us up to speed, we move on to Part 2.

While Wendy worked her second grid of the day, I made the shrike-killed Flat-tail the center of my universe until such time as the bird returned to claim its meal, which it eventually did—unseen. It must have been sneaky about it, for seldom did I have my back to the scene. It probably flew in and out low. The prey item was noticed missing at 1100 hours. Once that action was over, I went back to seeking 'winders. It was about this time that some of the biggest Tiger Whiptail Lizards (*Aspidoscelis tigris*) that I have ever seen began to appear. The years 1991 through 1993 were extremely generous rainfall years, and that was probably the setup for the larger-than-normal Whiptails observed there in 1994. Whatever the reason for their large size, they came and went quickly, and all lizard activity ground to an abrupt halt. There were damn few 'winder tracks to be seen here, and the directly-overhead, bright, hot sun made it difficult to see the few that were there. There was little else to do but return to the truck. While I was waiting there, dousing myself with ice water to cool off, I watched Wendy efficiently churning her way back and forth along her lines of flagging. She would occasionally plunge thigh-deep into the networks of burrows running under the soft sand, drag herself out, shake it off, and continue onward. I was in awe of this hard-working young lady, and recorded the following in my notes: "Wendy is tireless, they don't pay her enough! It's currently 12:45, and very hot, she is still at it!" I honestly felt guilty that I was having such a good time, while she was faced with such drudgery. But there wasn't much that I could do, for she had to work these plots alone. I must have been on the verge of being sun-stupid, for watching her hoof back and forth along her straight lines brought back memories from church, where many times the song "Lonesome Valley" was piously lip-synced by me with gusto: "You got to



Figure 1. The Flat-tailed Horned Lizard (*Phrynosoma mcallii*). Is it in good hands? In the case of this individual, yes! The hand in this image is that of Jim Rorabaugh, who has been heavily involved in herp conservation issues for over 30 years. On the whole, the species is in serious decline. Image by Dale S. Turner.

walk that lonesome valley. You got to walk it by yourself. Nobody else can do it for you . . ." (What a *dirge* that song is, and nobody sang it slower than the Missouri Synod Lutherans of Illinois).

Eventually, she finished up and joined me. She then crawled into the bed of the truck, under the camper shell—where it was hotter still. She got seated cross-legged, and hacked her way into a can of chunky soup with one of those screwdriver-like can openers that only the truly desperate use. Most people would look at one of these on their Swiss Army Knife and ask "What the hell is this for?" The next 30 seconds of her life were spent force-feeding herself the contents of the can. She didn't bother chewing, she just stuffed it in and swallowed. The term "swill hog" comes to mind for the prandial festivities, as there was no small amount of disgusting slurping and guttural noises accompanying the performance. I was able to avoid puking at the sight of it all by looking away. Cold, chunky soup from a can? Yech! Once the spectacle was over, I promised her that I'd take her out to supper that evening, if she could pry herself away from such delectable fare for long enough. She seemed amenable to this offer.

After the feast, she suggested that we next head south to the Yuma Dunes, where Yuman Fringe-toed Lizards (*Uma rufopunctata*) [hereafter called "Uma"] could be found. Having just experienced an hour of zero lizard activity, I thought Wendy's suggestion that we even try to find an Uma was ridiculous. She grew defensive, and said that she commonly saw Uma active during the hottest part of the day. When I insisted that she had been in the sun too long, she bet me a buck that we would find at least one. Since there was really not much else we could do at this point in the day anyway, and because she had the keys, off we went to try to find one. The entire drive was spent telling her how much I would cherish her dollar: informing her that it was money in the bank; that no lizard would dare to defy "Roger's rules"; that a fool and her money would soon be parted. Our drive took us along a barbed wire fence that separated Arizona and the USA from Mexico. (Today said fence is a towering border wall.) We parked by a huge tract of undulating sandy hills that are known as the Yuma Dunes (Figure 2). As we slogged our way up one of the dunes, Wendy's ears were filled with many taunts about how I would be framing her dollar. There would be a small, engraved label at the bottom of the frame that would read: "In Uma she trusts." On the way down that same dune, with my taunts still being vocalized, Wendy



Figure 2. The Yuma Dunes, home to both the Flat-tailed Horned Lizard and the Yuman Fringe-toed Lizard (*Uma rufopunctata*). Image by Randy Babb.

kicked up something that streaked across the sand and jetted into a clump of white bursage. We surrounded the bush, and within its confines I got my first-ever good look at an *Uma*. The lizard tried to shoot by Wendy. She alertly headed it off by maneuvering in front of it, and kicked some sand in its direction. The lizard then turned to run straight at me. I pounced, made a quick grab, and surprised myself by coming up with the lizard in hand. Once again, the lament that my camera was not working was raised, but Wendy seemed content to just stand there rubbing her forefinger and thumb together, in the universally understood sign that money should be passed her way. I tried to squirm my way out of paying up by suggesting that her *Uma* had not been active, but rather, buried shallow in the sand. She had probably either stepped right on it—or close enough to it—that it bolted out of its hide spot. But finally, while uttering a base metaphor about bathrooms and good fortune, I handed the greedy thing her dollar. It was the best buck that I have ever spent, for this proved to be the only *Uma* that I have ever held in hand. They are exquisite little creatures, their dorsal base coloration of black being nearly obliterated by lateral lines of tiny golden polka dots—each with a reddish-colored center—flowing in parallel lines from head to tail. The base coloration fades to a creamy-white along the lower flanks (Figure 3). Wendy's find was roughly 4 inches snout-to-vent, and perhaps 8.5 inches in total length. Once again, I quietly cursed my lack of a functional camera, and I continue to wallow in self-pity as I write these words today. After admiring our find for a short while, we released it, and continued the search for more. We didn't find

anything else, period.

While driving northward out of the dunes, we were met by two Border Patrol vehicles that were blocking the road. They led Wendy away to their vehicles, quickly went through our truck, and asked to see my driver's license. They questioned us separately, as is the way of cops. When we both gave the same answers, they reluctantly let us go. I was not happy with this "traffic stop," but Wendy implied that such intrusions were routine on the border. I had just had my first taste of an area that would soon go down in my notes as "Copland."

After the uneventful drive back to the bunkhouse, I headed for the local Walmart to get some batteries for my camera. We waited out the extreme heat of the afternoon in air-conditioned comfort. Wendy pretended to ignore me by focusing on dumping her data on her laptop, and even feigned getting snooty over my constant interruptions. My ill-conceived and poorly executed plan for the evening was to leave at 5 P.M. in order to drive off to never-never land to seek a Rosy Boa. After stopping for a most delicious Mexican dinner, we jetted off to Palm Canyon in the Kofa Mountains. I had greatly underestimated the distance to this most excellent canyon. By the time we arrived, we barely had enough daylight left to hike to the first view of the palms that line a sheer cleft in the south-facing cliff face. We searched the canyon with flashlights for a brief period after dark, but the fact that we had to be up again the next morning at 4 A.M. forced us to leave the canyon just as prime time approached. The long road home was watched like a hawk, but we were forced to make this a high-speed road cruise due to the distance. We did finally find a Spotted Leaf-nosed Snake (*Phyllorhynchus decurtatus*). I would normally have been delighted with such a find, but anything short of a Rosy Boa was *so* not worth the effort. Lift lid, deposit evening, flush the toilet! To this very day, I *deeply* regret *not* going back to one of Wendy's grids that night to look for Sidewinders and Shovel-nosed Snakes. I missed something by not doing so, and will forever lament my stupid decision to head for Palm Canyon.

After we returned to the bunkhouse and turned in for the night, I made the move that indicated I was now a graduate of Field Biology 101. I got out of bed and shut the door to our bedroom! The Coke machine was making an ungodly whirring racket, and I was having trouble sleeping. About the time that the door was closed, Wendy began talking in her sleep. She seemed to be having a horrible nightmare, probably caused by the foul odor of my vile-smelling feet. Just as I was considering



Figure 3. (Left) *Uma rufopunctata* from the Yuma Dunes; (Center) *Uma scorparia*, (Right) *Uma notata* shown in hands for size perspective. While the author laments not having a functional camera on 31 July 1994 (see text for details), the reader can rest assured that the quality of these images is better than anything he might have taken. Images by (Left) Jim Rorabaugh; (Center and right) Larry Jones.

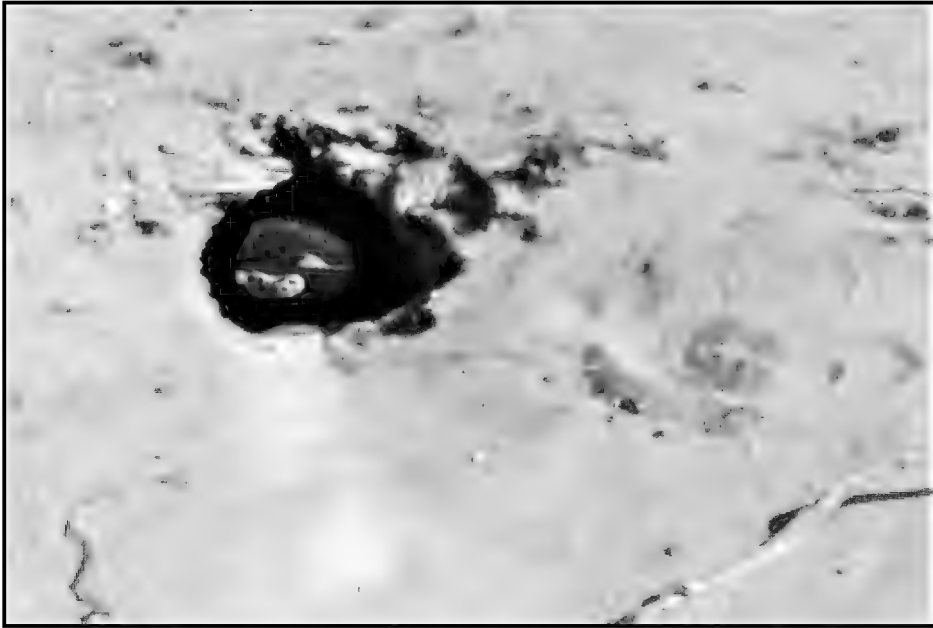


Figure 4. One of several Sidewinders viewed coiled just inside the entrance of a soil burrow. The author speculates that this may be an ambush hunting technique, used for snagging rodents by night and lizards by day. Image by the author.

waking her to end the bad dream, she quit mumbling her dream-speak, and began to snore deeply. Despite the fact that the bunkhouse was of solid construction, a strong-walled fortress as it were, Wendy's snoring was of such intensity that she was visibly moving the building. With each inhale, the ceiling was sucked downward a distance of a half-inch or so, and with each exhale, the fortress experienced lift off. How such a tiny and petite thing like Wendy could generate such enormous lung power will always be a mystery to me.

Once again, the four o'clock "off your arse" poke ensued, and once again I jumped out of bed wide-awake with exuberance, exclaiming: "All right! 'Winders as common as sand. Let's go!" We drove uneventfully in the predawn darkness, and arrived at the next plot. I made no pretense of following Wendy onto her grid, but instead focused all of my energies by swinging a large circle around her well-staked acreage. Here the 'winder tracks were the thickest I had seen yet, and I immediately discovered a cratered, midsized 'winder. As I zeroed in to take the picture with my freshly rejuvenated camera, the snake reacted exactly like the one seen the day before. It exploded from its crater, and came after me, lashing out in vicious strikes at my rapidly retreating foot apparel. Much like the one the day before, I had placed myself between it and its shelter. It sizzled into a nearby hole, the sound of its high-tempo rattling dwindling until it became inaudible. Yegads—those Yuma 'winders are *nasty* little critters!

I came to a network of holes near a large creosote bush, and saw a maze of tracks in front of the holes that took my breath away. There were the classic "J" shaped tracks all around the series of holes, but there was much more than that. There were clusters of tracks that swung about a natural arena, forming a shallow depression in the center, and working their way outward for about 6 feet in any direction. The sand showed that at times, one or two or more snakes had been on their backs, the inverse detail of their keeled dorsal scales being perfectly replicated in the impressionable sand. There could be no doubt that a 'winder brawl had taken place the night before, and I regretted that we had not been there to witness it. Using my pocket mirror, I shined one of the holes in the vicinity. The reflected sunlight revealed an adult Sidewinder coiled just inside it. I whisked the



Figure 5. One of the more impressive finds of the day was this large Sidewinder that was photographed *in situ*. The large size indicates that she is likely a female. She held her ground during photography, but dove for cover soon thereafter when a Border Patrol vehicle nearly ran her over. Image by the author.

mirror off target, took a knee, and readied my camera for mission impossible. If only I had brought my third hand along on this day! But I somehow managed to awkwardly hold both camera and mirror, and bring them into play for long enough to squeeze off a terribly blurred image of the situation (Figure 4). Moments later, in another hole within spitting distance of the first, I found yet another large 'winder in the exact same situation as the first. This one shot out of sight before I could get a photo. Man, was I ever having a blast!

About the time the lizards started to appear, so did the Border Patrol. Several vehicles rumbled back and forth along the road we parked on, each in turn pausing long enough to gaze at us with binoculars. This began to get on my nerves, and I wandered over to where Wendy was so feverishly working her plot to discuss it with her. I had the good sense to approach from behind, lest I violate her "get thee behind me, Satan" edict of the previous day. I was about to tap her on the shoulder, when she suddenly traced a big circle in the sand with her hiking staff. "Hey Roger" she bellowed in a voice as loud as foghorn, not realizing I was right behind her. When I replied "What?" she nearly jumped out of her skin with surprise. After enduring a rather abrupt comment about sneaking up on working people, I saw what she had just encircled. It was the fattest, finest looking 'winder that I had ever seen. (At the time, that number was nearly 350 individuals). This was the mother lode to me, a veritable whale amongst minnows in the wonderful world of *Cerastes*. Madam 'winder lay placid while both Wendy and I photographed her (Figure 5). This snake was found at 0645 hrs, and I decided to stay close to see what time she would finally go into her nearby shelter. She became my big experiment of the morning.

I circled the area the snake was basking, continuing to check on her every ten minutes or so. While I herped the area very close to Wendy's grid in this fashion, another Border Patrol vehicle came rolling down the road, and incredibly, swung off the road and drove right over Wendy's flagging to talk to her. Hot-diggity-damn and yehaw—what a *monumental* faux pas on his part! It was almost comical—but somewhat worrisome—to witness the heated conversation that followed. It was funny in



Figure 6. A horned lizard built for speed? You bet! Note the slender body and long limbs on this Flat-tail. A favored escape mechanism of theirs is to briskly flee to distance itself from pursuit, and dive nose first into the sand to hide. Note also the long and sharp parietal head spines. These are used as weapons to jab would be predators. Image by Jim Rorabaugh.

that the big sheriff of the desert was getting an earful, yet worrisome because Wendy was tangling with the most powerful branch of law enforcement in the nation. They can — and will — perform full-cavity body searches at whim, and lock you up for 48 hours without cause. This concerned my new young friend not at all. The petite yet belligerent field biologist verbally went after Johnny Law with a vehemence that more than matched the disposition of the Yuma 'winders at our feet. The animated tongue-lashing had exactly zero impact, for as soon as Wendy was done with him, he continued to drive across her plot to talk to me. He pointed to some footprints in the sand, and asked if they were mine. I looked at the footprints, and noted that they led right to where I was standing. Thinking that this might be a trick question, I hesitated a moment before saying "yes." This seemed to satisfy the master tracker, and he drove off to perform his diligent duty elsewhere. In the wake of this unpleasant interlude, he very nearly ran over our big 'winder, which hastened into her shelter, wrecking my big experiment of the day. Hodges and Repp fumed together for no short duration of time, while the massive cop-mobiles continued to drive back and forth along the border fence, eyeing us with great interest and suspicion as they rumbled past.

Wendy eventually finished up, and we left "Copland" behind. We headed for Wendy's "sure bet" road for finding Flat-tails. She knew of a paved road that routinely produced the lizard and, with great enthusiasm, we headed for this road. Two sets of eyes were paying rapt attention as we hit the pavement, and five minutes later, a lizard was viewed streaking across the road. "*Mcallii*!" Wendy announced, and the truck ground to a halt. While I had seen the lizard at the same time as Wendy, there was no way that I would have ever guessed that this lizard could be a horned lizard of any species. It seemed to be moving much too fast — zooming along with the speed of any number of fleet-footed desert lizards. Indeed, my first guess upon seeing it was that it was a huge Zebra-tailed Lizard as it streaked across the pavement (Figure 6). I was out of the truck before it stopped, using the momentum to jump-start my sprint, and was hot on it. The wary lizard was heading straight for a creosote bush, which

in turn was pockmarked with the usual series of soil holes under its canopy. Fearing that it would jet into one of these and escape, I hollered "No you don't!" This command seemed to work, for it did *not* jet into one of those holes. (It never hurts to vocalize one's wishes in situations like this. Proper communication skills are paramount in person-to-herp cooperation. After all, they are not mind readers. It would also stand to reason that an adult Flat-tail such as this one probably had more than a basic understanding of what might be lurking just inside of those soil holes.) Just before it got to the shrub, I went horizontal, and made a diving grab for it. I came up with a handful of sand for my effort. By this time, Wendy was at my side, "Did you get him?" "Nope," came my sheepish response. "Where is it?" she asked. "Uhh, ummm, I don't rightly know Wendy." "Oh, here it is," she said, and promptly picked the partially buried lizard out from under the bush in a "nothin' to it" fashion. With the same nonchalant manner, she handed it to me.

As I sit here today, I find myself thinking "*I can't believe that I actually had one in my hands!*" (See Figure 1.) It was a delightful little creature, a small brownish lizard whose flanks reflected a stunning, iridescent greenish hue. Two pronounced parietal horns (AKA occipital horns) emerged from the center of the back of the head like miniature but elongated horns of Lucifer. These two parietals were symmetrically flanked by two other spikes to each side of the head. A row of spines encircled the bottom jaw, and double rows of spines ran the length of the long and flattened tail that is the lizard's namesake. As I held the lizard and admired it from all angles, it did not try to bite me. It instead demonstrated a different form of resistance by thrusting its head backwards, stabbing me with those two impossibly long and sharp head spines. "Ouch, the little nipper is trying to spike me!" I exclaimed, and Wendy mentioned that this was a normal defensive behavior in the species. I asked her to hold the lizard while I went back to the truck for my camera. When I returned, she had set it on the ground for a natural photo. "Where is it?" I asked with my camera at ready. "It's right here," she said as she pointed at it. "I don't see it," I mumbled in myopic misery, "where did it go?" "Jeez, Roger Rabbit! It's right here, look!" As Wendy said this, she attempted to draw a little circle around the lizard with her finger. This proved to be too much for the little critter to endure, and it launched itself into high horned lizard gear and headed straight for the truck. Once again, I was amazed at how fast it could run! While hot on its heels, I foolishly forgot to tell it not to go under the truck. Hence, that is exactly where it went. It centered itself under the front axle, and generally made itself as much of a pain in the ass as possible to retrieve. Wendy and I each sprawled on our bellies on opposite sides of the front tires in an attempt to catch our quarry in a herpetological crossfire. For several seconds, Wendy and I had a great view of each other stretching our arms straight out toward the lizard, my own hand getting much closer to it because — unlike Wendy — I was not the runt of the litter. With a powerful surge, I flopped forward enough to make a fumbling grab at it. I managed to barely tweak it with my finger tips. This startled the lizard enough to drive it toward Wendy. She was still on her belly, with her right arm stretched straight out flat on the pavement. Much to the surprise of both of us, the lizard darted right up Wendy's arm and into her loose-fitting shirt sleeve. It then



Figure 7. (Left) Wendy says “w-e-e-e” while attempting to remove a Flat-tail that has crawled into her shirt. (Right) Success! Is it a sheepish grin, or one of triumph? It’s probably both. The author has witnessed many unique ways of capturing a herp, but this one is the champ! See text for details. Images by the author.

began working its way into the depths of her blouse. It was apparently not as pleased with this situation as it should have been, and began prolifically jabbing her with its needle-sharp parietals as it worked its way up her arm and into her lower back region.

Quicker than it takes to say it, I was on my feet and sprinting around the truck. As I rounded the corner of the truck, camera still in hand, I got quite an eyeful. Wendy was seated on the pavement, her legs sprawled out in front of her in constant and convulsing motion. Both of her arms were thrust inside of her shirt up to the elbow behind her back. It was as if she were trying to scratch an itch that she couldn’t reach. While this was happening, she morphed into one of those “girls who say w-e-e-e!” I’ll do my best to quote what she was uttering while in the process of everything just described. It went something like: “W-e-e-e-e, ow, ow, ow, it’s stabbing me! Who-o-o-o, w-e-e-e-e, ouchie-oochie—make it stop! Ow!” At my feet was a herpetological damsel in distress, and my chance to be a hero was at hand. For a split second, I entertained the foolish notion that I should help her remove the lizard from inside her blouse. Thankfully, I reconsidered said foolish notion. I suddenly realized that if I went fishing about inside of Wendy’s blouse to assist her, I would draw back a pair of bloody stumps! My response to this crisis situation was to just throw my head back and roar with laughter, as this was by far the funniest “capture” of a herp that I’d ever experienced. Somehow, some way, in between gales of gut-wrenching laughter, I managed to squeeze two G-rated photos of Wendy working that Flat-tail out of her shirt (Figure 7). Moments like this are what I live for!

There were more camaraderie-building moments and hilarity in store for us on this stellar morning. Within minutes of seeing and catching the first Flat-tail, we caught a second. Wendy had one more plot to work this day, and in the course of my wanderings, I was able to get a good look at another *Uma*. As this one was nowhere near any known dunes, Wendy expressed doubt as to my lizard identification prowess. This evoked a squabble of sorts between us. During the curt but good-natured debate, talk of snooty college brats emerged from one side, while those who cut steel for a living sticking to just that emanated from the other. In the heat of the snippy dialogue, the guy who cut steel for a living forgot himself, and wandered directly onto the

snooty college brat’s plot. He did so in order to offer finding her stepladder, so that she could look him in the eye while delivering her low blows. She didn’t take kindly to the subtle reference to her diminutive size, and saw fit to order me off her grid. I could not help but notice a “jewel of the desert” glimmering behind her as she told me to shove off. “You missed one,” I helpfully suggested as I stooped to pick it up. As this was an illegal turd where the statistics of her study was concerned, she did not even feign documenting it. It became the turd that never was.

In wrapping this adventure up, it would be much too easy to end on a sour note. The Flat-tail was in trouble then, and is in even more trouble now. Should I mention even one word as to why this lizard is in dire danger of becoming extinct, there’d be no stopping it; this column would double in length. It is better to simply mention that this rocket run to Yuma was the best time that I have ever had on a herping trip. That is saying a lot! Many firsts occurred on this trip. I was able to see several diurnally-active Sidewinders. I was also able to see several more in shelters, and even get a photograph of this. There were also two life-list firsts for me, with both the *Uma* and the Flat-tails encountered. The fact that I was able to hold both species in the palm of my hand means more to me than words can express, and all the more so now that I realize that it might not ever happen again. During the past pandemic year of depression and heartache, we *all* have the need for warm memories in order to help us to keep the sunny side up. Recounting this most excellent adventure was my way of beating the blahs. I sincerely hope that all of you have had such moments in your lives as well. In ways too many to count, those of us who love the simple joy of seeking and finding herps are the luckiest people on this planet.

This here is Roger Repp, signing off from Southern Arizona, where the turtles are strong, the snakes are handsome, and the lizards are above average.

Acknowledgments

The author is once again indebted to Robert Villa and Howard Clark of the Tucson Herpetological Society for their support and encouragement in the rewriting of this article. In order of appearance, photographers Dale Turner, Randy Babb,

Larry Jones and Jim Rorabaugh greatly enhanced this effort with their images. All four photographers also contributed mightily to the book *Lizards of the Southwest*, which is cited below. I would have been lost without this book. Last but not least, the author wishes to acknowledge the excellent work of Matt Goode and

his crew for their current efforts at studying the Flat-tail. These works are also cited below. I encourage them to publish their *masterful* piece on loggerhead shrikes and Flat-tail predation as soon as possible.

Suggested Further Reading

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Herpetology 2021

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

INBREEDING IN NATTERJACK TOADS

S. Phillips et al. [2020, The Herpetological Journal 30(3):159-167] point out that genetic monitoring is an important, but frequently lacking, component of management actions to support long-term persistence in reintroduced populations. Populations that remain small, due to demographic processes and genetic diversity, are more likely to experience a second extinction event. The natterjack toad (*Epidalea calamita*) is legally protected in Britain and was the subject of a reintroduction program in the 1990s. However, subsequent genetic assessment has been mostly lacking. The aim of this study was to assess the genetic diversity of two reintroduced populations of natterjacks to inform conservation management. Adults were sampled and nine microsatellites amplified to assess neutral genetic variation within each site and for comparison with the source population. Inbreeding was observed at the reintroduction sites, as evidenced by high FIS values (0.43 and 0.72), low observed compared to expected heterozygosities, and significant deviation from Hardy-Weinberg equilibrium. Observed heterozygosity is currently lower in the reintroduction sites than it was in the source population (Red Rocks: 0.15 ± 0.20 ; Talacre: 0.12 ± 0.20 ; Ainsdale (source): 0.29). Evidence for a bottleneck was not found, although this is likely a result of sampling overlapping generations. No within-site population structuring was observed. Such low genetic diversity has not previously been recorded in any natterjack population. Genetic rescue, combined with pool creation, is the most viable option for safeguarding the species at these sites into the future. This work highlights the importance of ongoing genetic monitoring, in collaboration with conservation organizations, to support conservation management.

MUDPUPPY eDNA REVEALS RESTORATION SUCCESS

J. Sutherland et al. [2020, Herpetologica 76(3):366-374] note that mudpuppies (*Necturus maculosus*) are secretive, fully aquatic salamanders with a range that spans much of the eastern United States and Canada including the Great Lakes region. This species was once abundant, but there have been widespread declines due to habitat loss and modification, pollution, lampicide use, and overcollection. The authors compared environmental DNA (eDNA) and trapping surveys conducted from 2014 to 2016 to determine mudpuppy occupancy along the St. Clair-Detroit River System, as a gauge for success of ongoing restoration. Mudpuppy eDNA was detected at all sites with positive trapping records, as well as one site where individuals have not been trapped previously. Sites with shoreline restoration had the highest occupancy estimates, whereas deep-water restoration did not affect mudpuppy occupancy. Additionally, eDNA surveys resulted in higher detection probability than setline and minnow trap survey methods, illustrating the benefit of using eDNA to detect secretive species. This study demonstrates the success of restoration efforts in increasing the occupancy of an indicator species and can be used as a template for other restoration initiatives.

NEW SPECIES OF ODD-SCALED SNAKE

A. H. Miller et al. [2020, Copeia 108(4):796-808] note that *Achalinus*, commonly known as odd-scaled snakes due to their unique scutellation, are a fascinating group of xenodermid snakes distributed throughout east Asia. Currently, northern Vietnam is known to host six species of *Achalinus*, three of which are considered endemic. During recent herpetofaunal surveys conducted in the Bac Me District of Ha Giang Province, the authors collected a single specimen of *Achalinus* in a low-land region surrounded by secondary forest on karst. They conducted Bayesian and maximum likelihood phylogenetic analyses using multiple mitochondrial protein-coding loci and a ribosomal subunit to ascertain the phylogenetic position of the Ha Giang specimen among currently recognized odd-scaled snake species. The results of those analyses along with morphological differences support this specimen as representing a new species, which they describe as *Achalinus zugorum*, new species. The specific epithet honors George R. Zug and Patricia B. Zug. Detailed morphological descriptions and comparisons of the new species are provided, as well as brief comments on the biogeography and conservation of *Achalinus* in northern Vietnam.

NORTHERN MAP TURTLES IN MISSISSIPPI

G. J. Brown et al. [2020, Chelonian Conservation and Biology 19(2):256-261] note that the conservation of species at the periphery of their ranges has been gaining increased attention. The northern map turtle (*Graptemys geographica*) is a wide-ranging species that is considered globally stable. However, some states/provinces may have only peripheral populations of the species with either few existing populations or a small area occupied. In Mississippi, only a small portion of northeastern Mississippi occurs in the Tennessee River drainage, a drainage occupied by *G. geographica*, and range maps project that the species may occur in a small fraction of the state in Tishomingo County. However, no specimen or photographic vouchers had previously been collected for the species. The authors conducted canoe and visual point count surveys within creeks of the Tennessee River drainage to determine if *G. geographica* is present and, if so, to further assess the distribution and abundance of the species in northeastern Mississippi. They discovered the species in two confluent creeks in Tishomingo County, but only one appears to hold a viable population. The habitat of these creeks, including bedrock or gravel substrate, is similar to localities previously described for the species; the species was absent from areas surveyed dominated by clay- or sandy-bottomed creeks. Peripheral populations of a species are usually the first populations to exhibit declines, and it is therefore important to manage those populations accordingly and protect their genetic integrity. For these reasons, the authors suggest listing the species as critically imperiled (S1) and endangered in Mississippi. These designations would afford state protection to what is now likely Mississippi's rarest turtle species.

NEW PERUVIAN VINE SNAKE

R. C. Jadin et al. [2021, *Evolutionary Systematics* 5(1):1-12] note that the brown vine snake, *Oxybelis aeneus*, was until recently considered a single species, distributed from southern Arizona through the Neotropics into southeastern Brazil. However, newly conducted research restructured the species with a substantial taxonomic revision, recognizing five additional taxa (i.e., *O. koehleri*, *O. microphthalmus*, *O. potosiensis*, *O. rutherfordi*, *O. vittatus*) in this species complex. This revision focused on populations in North America, Central America, and northern South America while neglecting the southern portion of its distribution. Here, the authors examine the taxonomic history of the complex and use it along with specimen data to resurrect *O. acuminatus* from southeastern Brazil. Additionally, they describe a new species, *Oxybelis inkaterra*, from the Peruvian Amazon based on morphological characters. The specific epithet honors the ecotourism company Inkaterra <<https://www.inkaterra.com/>> and its nonprofit NGO counterpart Inkaterra Asociación. This work increases the species diversity of the *O. aeneus* complex to eight, and the authors expect further biodiversity discoveries with continued exploration of the New World vine snakes.

INFLUENCE OF BEAVER ON EUROPEAN AMPHIBIANS

L. Dalbeck et al. [2020, *The Herpetological Journal* 30(3): 135-146] note that, once widespread throughout Eurasia and hunted nearly to extinction, the Eurasian beaver *Castor fiber* has returned to large parts of its former range, largely through active conservation measures. Beavers can substantially alter small, low order streams and their floodplains through dam construction, burrowing activities and tree felling. Therefore, it is presumed they can significantly influence amphibian distributions, species richness and numbers. The authors undertook a literature review to compare the available data addressing the effects of beaver dams on amphibians in streams of central temperate and boreal Europe. All 19 amphibian species occurring in the study region were found in beaver ponds, despite their distinctly different habitat requirements. Amphibian species acting as pioneers / early colonizers were underrepresented in beaver ponds compared to typical forest species. Open country and ubiquitous species showed intermediate patterns. Beaver ponds in headwater streams often supported the entire spectrum of species occurring in the surrounding landscape, and species numbers in beaver modified headwater streams were comparable to those in floodplains of larger natural rivers. In small headwater streams, beavers tended to be the primary providers of essential habitat for amphibians. In contrast, beaver ponds in the floodplains of larger rivers appeared to have less effect and supported lower average species numbers compared to beaver ponds in headwater streams. The authors propose that beavers and their habitat-creating activities are pivotal determinants of amphibian species richness in the headwater streams, which account for 60–80% of the water bodies in catchment areas in temperate Europe. By creating habitat for endangered amphibian species, beavers and their ability to modify habitats offer extensive opportunities to implement many aspects of the European Water Framework Directive across the continent and to restore amphibian habitats, contributing to their long-term conservation.

A NEW SPECIES OF *ABRONIA*

A. G. Clause [2020, *Herpetologica* 76(3):330-343] describe the Sierra Morena arboreal alligator lizard, *Abronia morenica*, from the La Sepultura Biosphere Reserve in western Chiapas, Mexico. The new species is known only from the vicinity of the type locality in the Sierra Madre de Chiapas. It is readily distinguished from all congeners by the following combination of characters: lack of protuberant or spine-like supra-auricular scales, lack of protuberant or casque-like posterolateral head scales, 30–35 transverse dorsal scale rows, lateralmost row of ventral scales enlarged relative to adjacent medial row, dorsum brown with 8–10 transverse dark crossbands, and dark lateral bar on the neck extending from the shoulder to near the auricular opening. The authors tentatively assign the new species to the subgenus *Lissabronia* pending the availability of a robust, comprehensive molecular phylogeny for the genus. They discuss regional *Abronia* biogeography and comment on the conservation implications of their discovery for the imperiled highland forests of the Sierra Madre de Chiapas, a globally important center of endemism. This research was partially funded by a grant from the Chicago Herpetological Society.

SYMPATRIC TURTLES IN A TROPICAL DRY FOREST

T. Butterfield et al. [2020, *Copeia* 108(4):957-966] note that resource partitioning in communities is often achieved by sympatric species having different morphologies that allow them to access different resources. This is because differences in morphology influence an organism's capability to perform a task that is relevant to their ecology. The authors compared limb, shell, and head morphology, swimming performance, habitat use, and diet of three species (*Rhinoclemmys rubida*, *R. pulcherrima* and *Kinosternon chimalhuaca*) that co-occur in the tropical dry forest of Chamela, Jalisco, Mexico. They found that these species do not overlap in both habitat and diet, and the overlap that was observed in habitat was contrasted by differences in diet. They also found a consistent relationship among limb and shell morphology, swimming speed, and habitat. *Rhinoclemmys rubida* occupies the driest deciduous forest atop and along hills, has shorter hands, less interdigital webbing, longer plastrons, more-domed shells, and slower swimming speeds in proportion to body size. In contrast, *Kinosternon chimalhuaca* exclusively occupies arroyos or seasonal streams, has longer hands, more interdigital webbing, smaller plastrons, less-domed shells, and faster swimming speeds in proportion to its body size. *Rhinoclemmys pulcherrima* was found in all habitats and intermediate in morphology and swimming speed between the other two species. Therefore, in this study system, limb and shell morphology are good indicators of habitat differences between turtle species. These differences are likely due to the influence that limb and shell morphology have on swimming performance. Relationships between head morphology and diet were less clear, which might be the result of changes in behavior or habitat rather than morphology. Patterns of resource partitioning in Chamela seem to coincide with other studies of turtle communities, which suggests that relationships among morphology, performance, and ecology that were observed here might be a general pattern across turtles.

News and Announcements

2021 CHS GRANT RECIPIENTS

The CHS Grants Committee has chosen the CHS grant recipients for 2021. The committee consisted of John Archer, Michael Dloogatch, Gery Herrmann, Robert Jadin and Jessica Wadleigh. This year we received 20 applications. After a difficult decision process, five grants were awarded, as follows:

- Jeffrey L. Coleman, Department of Integrative Biology, University of Texas at Austin. “How Have *Epipedobates* Poison Frogs Acquired Chemical Defense?” \$500.
- Nicholas H. Coppock, Department of Biology, Missouri State University. “What Role Does Acoustic Communication Play in Chelonian Behavioral Ecology? Correlating the Acoustic and Behavioral Repertoires of Hicatee (*Dermatemys mawii*),” \$500.
- Dr. Chelsea S. Kross, Forbes Biological Station, Illinois Natural History Survey. “Understanding the Effects of Moist Soil Management on Herpetofauna in Illinois Wetlands,” \$750.
- Alexandra May Martin, Department of Biological Sciences, Binghamton University. “Plasticity of Antipredator Diving Behavior in Variable Environments,” \$750.
- Corrie J. Navis, Integrative Conservation & Forestry and Natural Resources, University of Georgia. “Using Striped Newt (*Notophthalmus perstriatus*) Life History to Inform Captive Rearing and Repatriation Efforts,” \$1,000.

Minutes of the CHS Board Meeting, February 12, 2021

A virtual meeting of the CHS board of directors via Zoom conference video/call was called to order at 7:32 P.M. on February 12, 2021. Board member John Gutierrez was absent.

Minutes of the January 15 board meeting were read and accepted with changes.

Officers' reports

Treasurer: Rich Crowley went over the financial reports using a shared screen.

Vice-president: No speaker has yet been scheduled for March. April and May are lined up. June will be Show & Tell.

Media secretary: Stephanie Dochterman reported that our CHS web site, Facebook, Twitter and Instagram posts need to be updated more frequently. We need more photos posted to our media sites. She asked that board members talk to friends and other members who may be interested in helping.

Membership secretary: Mike Dloogatch reported that membership will stay constant at lightly below 400 this month.

Sergeant-at-arms: Tom Mikosz reported that 19 people logged in for the January online meeting.

Committee reports

Shows: Rich Crowley followed through with Scott Smith of the All Animal Expo. Scott is still willing to give us a table but cannot cover us under his insurance.

Junior Herpers: Frank Sladek will probably not participate during the coming year. Stephanie is interested in helping out with the Juniors, and will discuss this with Jenny Hanson and Frank.

Adoptions: We cannot act as a rescue. We are not equipped to handle the medical bills.

Grants: Mike Dloogatch reported that the committee will meet during the coming weekend to evaluate the proposals and award the CHS grants for 2021.

The meeting adjourned at 9:22 P.M.

Respectfully submitted by recording secretary Gail Oomens

Advertisements

For sale: **highest quality frozen rodents.** I have been raising rodents for over 30 years and can supply you with the highest quality mice available in the U.S. These are always exceptionally clean and healthy with no urine odor or mixed in bedding. I feed these to my own reptile collection exclusively and so make sure they are the best available. All rodents are produced from my personal breeding colony and are fed exceptional high protein, low fat rodent diets; no dog food is ever used. Additionally, all mice are flash frozen and are separate in the bag, not frozen together. I also have ultra low shipping prices to most areas of the U.S. and can beat others shipping prices considerably. I specialize in the smaller mice sizes and currently have the following four sizes available: Small pink mice (1 day old—1 gm) , \$25 /100; Large pink mice (4 to 5 days old—2 to 3 gm), \$27.50 /100; Small fuzzy mice (7 to 8 days old—5 to 6 gm), \$30/100; Large fuzzy mice / hoppers (10 to 12 days old—8 to 10 gm), \$35/100 Contact Kelly Haller at 785-224-7291 or by e-mail at kelhal56@hotmail.com

For sale: publications—*A Checklist and Key to the Amphibians and Reptiles of Belize, South America* by Robert Henderson and Leo Hoevers; 1975; 63 pp., keys; (s) - \$15; *The Ecological Geography of Cloud Forest in Panama* by Charles W Myers; 1969; 52 pp., b&w photos; American Museum Novitates No. 2396; (s) - \$15; *Notogaea* by L. E. M. de Boer and B. van Wissen; 1977; 96 pp., many color photos, 57 figs.; an authoritative, comprehensive historical zoogeographic account of Australia, New Guinea and New Zealand; (s) - \$20; *Encyclopedia of Australian Animals - Reptiles* by Harald Ehmann; 1992; 495 large (8 × 12½") pp., an excellent color photo of every species of Australian reptile described at the time; photos from the National Photographic Index of Australian Wildlife; mylar-covered DJ; (h) - \$80; *The Natural History of Two Generations of Chamaeleo jacksoni in Captivity* by John Van Mater, Jr.; 1971; 23 mimeographed pages from Herpetology, the publication of the Southwestern Herpetologists Society; breeding this species in Southern California; \$10; *Body Temperatures of Reptiles* by Bayard Brattstrom; 1965; pp. 376-422; 10 tables, 16 figs.; reprinted from The American Midland Naturalist; (s) - \$8; *On the Diversity of Reptile and Amphibian Species in a Bornean Rain Forest* by Monte Lloyd, Robert F. Inger and F. Wayne King; 1968; 497-515 stapled pp.; reprinted from The American Naturalist; highly technical analysis; - \$5. s=softbound; h=hardbound; All publications in excellent condition; Orders \$25 and over sent postpaid, \$4 postage and handling for orders less than \$25. Email for complete list. William R. Turner; toursbyturner@aol.com; (303) 795-5128.

Line ads in this publication are run free for CHS members—\$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to mdloogatch@chicagoherp.org.

NEW CHS MEMBERS THIS MONTH

Gavin D. Costello
Michael Lee
Beth Reinke
Cezar Simeon

From the company that developed the **first UVB lamp** for reptiles 20 years ago...

T5 HO UVB



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UPCOMING MEETINGS

Until in-person meetings again become possible the Chicago Herpetological Society will be holding monthly general meetings online via Zoom webinar. A notification will be sent by email to all members who have supplied us with an email address. As has been our custom for over 50 years, the meetings will be held on the last Wednesday evening of each month. The March webinar is scheduled for Wednesday, March 31, at 7:30 P.M. Chicago time. Past CHS president and current treasurer **Rich Crowley** will be the speaker. Rich is the author of *A Passionate Journey with Short-tailed Pythons*. The title of his program is “Evolution of a Herper: Keeper, Breeder, Author to Advocate.”

For the April 28 webinar **Sarah Lamar**, a Ph.D. candidate at Victoria University of Wellington in New Zealand will speak to us direct from that island nation on the other side of the world. Sarah’s research looks at the reproductive biology of tuatara (*Sphenodon punctatus*).

Dr. Eli Greenbaum, professor of environmental science at the University of Texas at El Paso, will be the speaker at the May 26 webinar. Dr. Greenbaum is the author of *Emerald Labyrinth: A Scientist’s Adventures in the Jungles of the Congo*. The title of his talk will be “Mambas, Malaria and Militias: 21st Century Herpetology in Democratic Republic of Congo.”

The June 30 webinar will be **Show & Tell**. The speakers will be you, the members of the Chicago Herpetological Society.

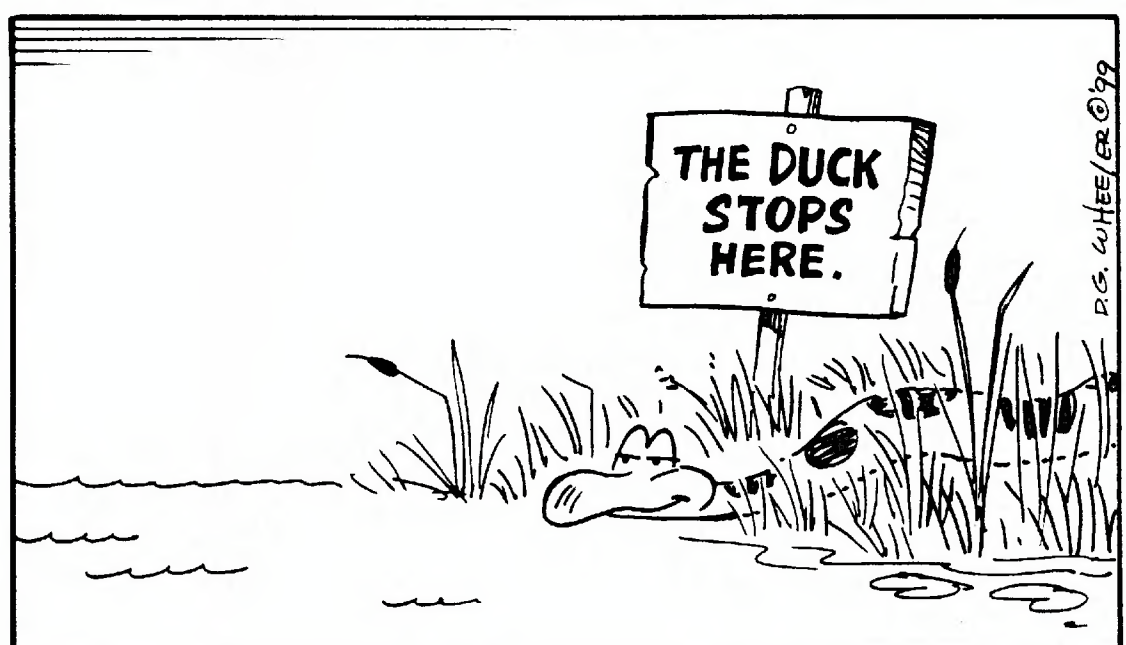
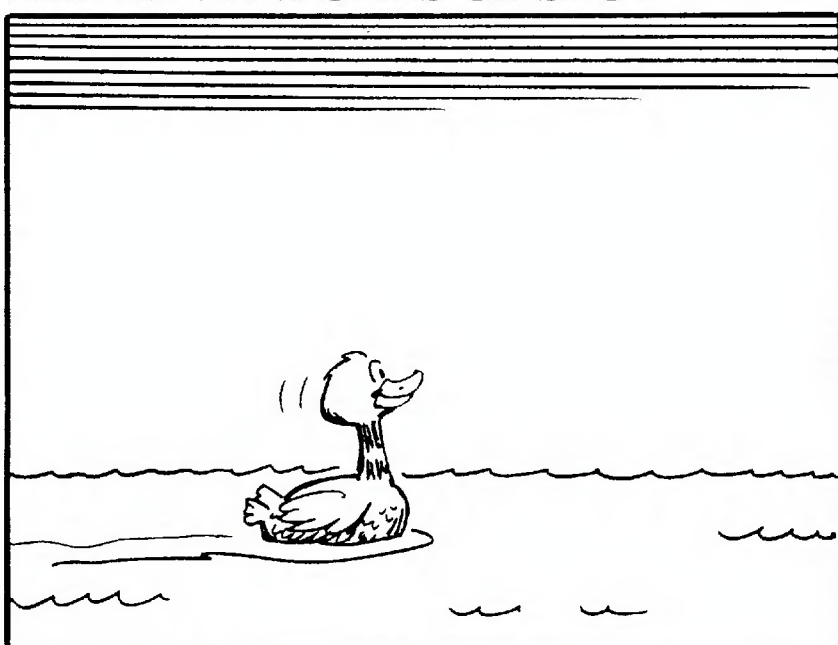
Please check the CHS website or Facebook page each month for information on the program. Information about attending a Zoom webinar can be found here:

<[https://support.zoom.us/hc/en-us/articles/115004954946-Joining-and-participating-in-a-webinar-attendee->](https://support.zoom.us/hc/en-us/articles/115004954946-Joining-and-participating-in-a-webinar-attendee-)

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? The next board meeting will be held online. If you wish to take part, please email mdloogatch@chicagoherp.org.

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